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PROJECT INSPECTOR

Progress Report for September 1964

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1. PROGRESS OF WORK

A tentative outline for a working system was developed.

The basic principle of a compensated light table, operating in real time, was tested and proven in a rough simulation. The "light table" was the face of a Utiliscope monitor, Model 5A. A test film, with highly overexposed and underexposed areas, was superimposed on the oscilloscope face. The image of the back-lighted film was focused with a suitable lens system on a photomultiplier. The signal from the photomultiplier was amplified and fed to the intensity grid of the Utiliscope CRT in such phase as to constitute inverse feedback. The effect was to decrease the illumination of the overexposed areas by a factor of approximately two and increase the illumination of the underexposed areas by the same factor. This action brought out additional detail in both areas. Polaroid photographs were taken to illustrate the effect.

Pertinent literature is still being examined and summarized as it arrives.

2. PROBLEM AREAS ENCOUNTERED

At this time, the main problem is the gross inherent inefficiency of optical systems. This effect severely limits the light intensities attainable.

DECLASS REVIEW by NIMA/DOD

GROUP 1
Excluded from automatic
downgrading and
declassification

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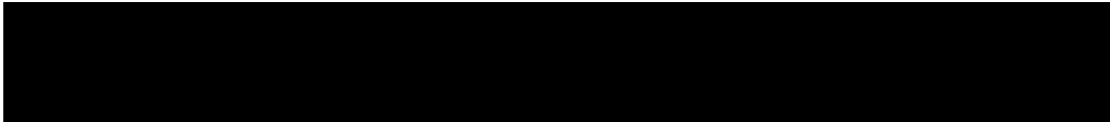
3. PROJECTED WORK FOR THE NEXT PERIOD

The tentative system outlined above must be adjusted to bring it within the capabilities of practical optical systems. This requires investigation of possible optical designs and CRT capabilities.

Practical illumination requirements for various controlled ambient light conditions must be determined. Proper control of ambient light conditions may permit reduction of the required illumination levels to more feasible levels.

Work will be started on a setup suitable for investigating the frequency relationships in the feedback loops.

4. STATUS OF FUND EXPENDITURES TO END OF PERIOD



5. VERBAL COMMITMENTS AND/OR AGREEMENTS

None.

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